$CREE = CREE_{UP} - CREE_{GAS}$

Where:

CREE means the carbon-related exhaust emission value as defined in § 600.002, which may be set equal to zero for eligible 2012 through 2016 model year electric vehicles for a certain number of vehicles produced and delivered for sale as described in § 86.1866–12(a) of , and this chapter.

$$CREE_{UP} = \frac{EC}{GRIDLOSS} \times AVGUSUP \text{ , and}$$

$$CREE_{GAS} = 0.2485 \times TargetCO_2,$$

Where:

EC = The vehicle energy consumption in watt-hours per mile, determined according to procedures established by the Administrator under § 600.111–08(f).

GRIDLOSS = 0.93 (to account for grid transmission losses).

AVGUSUP = 0.642 (the nationwide average electricity greenhouse gas emission rate at the powerplant, in grams per watt-hour).

$TargetCO_2$ = The CO_2 Target Value determined according to § 86.1818 of this chapter for passenger automobiles and light trucks, respectively.

(2) For 2012 and later model year plug-in hybrid electric vehicles, the carbon-related exhaust emissions in grams per mile is to be calculated using the following equation and rounded to the nearest one gram per mile:

$CREE = (ECF \times CREE_{CD}) + [(1–ECF) \times CREE_{CS}]$,

Where:

CREE means the carbon-related exhaust emission value as defined in § 600.002;

$CREE_{CS}$ = The carbon-related exhaust emissions determined for charge-sustaining operation according to procedures established by the Administrator under § 600.116; and

$CREE_{CD} = CREE_{CDEC} + CREE_{CDGAS}$

Where:

$CREE_{CDEC}$ = The carbon-related exhaust emissions determined for electricity consumption during charge-depleting operation determined according to paragraph (m)(1) of this section; and

$CREE_{CDGAS}$ = The carbon-related exhaust emissions determined for charge-depleting operation determined according to the provisions of this section for the applicable fuel according to procedures established by the Administrator under § 600.116; and

ECF = Electricity consumption factor as determined by the Administrator.

(3) For 2012 and later model year fuel cell vehicles, the carbon-related exhaust emissions in grams per mile shall be calculated using the method specified in paragraph (m)(1) of this section, except that $CREE_{UP}$ shall be determined according to procedures established by the Administrator under § 600.111–08(f). As described in § 86.1866 of this chapter the value of CREE may be set equal to zero for a certain number of 2012 through 2016 model year fuel cell vehicles.

(n) Equations for fuels other than those specified in paragraphs (h) through (l) of this section may be used with advance EPA approval. Alternate calculation methods for fuel economy and carbon-related exhaust emissions may be used in lieu of the methods described in this section if shown to yield equivalent or superior results and if approved in advance by the Administrator.

[76 FR 39533, July 6, 2011]

§ 600.114–08 Vehicle-specific 5-cycle fuel economy and carbon-related exhaust emission calculations.

Paragraphs (a) through (c) of this section apply to data used for fuel economy labeling under subpart D of this part. Paragraphs (d) through (f) of this section are used to calculate 5-cycle carbon-related exhaust emissions values for the purpose of determining optional technology-based CO_2 emissions credits under the provisions of paragraph (d) of § 86.1866–12 of this chapter.

(a) *City fuel economy.* For each vehicle tested under § 600.010–08(c)(i) and (ii),

determine the 5-cycle city fuel economy using the following equation:

$$(1)\ \text{City FE} = 0.905 \times \frac{1}{(\text{Start FC} + \text{Running FC})}$$

Where:

$$\text{(i) Start FC (gallons per mile)} = 0.33 \times \left(\frac{(0.76 \times \text{Start Fuel}_{75} + 0.24 \times \text{Start Fuel}_{20})}{4.1} \right)$$

Where:

$$\text{Start Fuel}_x = 3.6 \times \left(\frac{1}{\text{Bag 1 FE}_x} - \frac{1}{\text{Bag 3 FE}_x} \right)$$

Where:

Bag Y FE_X = the fuel economy in miles per gallon of fuel during the specified bag of the FTP test conducted at an ambient temperature of 75 °F or 20 °F,

and,

$$\text{(ii) Running FC} = 0.82 \times \left[\frac{0.48}{\text{Bag 2}_{75}\ \text{FE}} + \frac{0.41}{\text{Bag 3}_{75}\ \text{FE}} + \frac{0.11}{\text{US06 City FE}} \right] + 0.18 \times \left[\frac{0.5}{\text{Bag 2}_{20}\ \text{FE}} + \frac{0.5}{\text{Bag 3}_{20}\ \text{FE}} \right] + 0.133 \times 1.083 \times \left[\frac{1}{\text{SC03 FE}} - \left(\frac{0.61}{\text{Bag 3}_{75}\ \text{FE}} + \frac{0.39}{\text{Bag 2}_{75}\ \text{FE}} \right) \right]$$

Where:

US06 City FE = fuel economy in miles per gallon over the ''city'' portion of the US06 test,

HFET FE = fuel economy in miles per gallon over the HFET test,

SC03 FE = fuel economy in miles per gallon over the SC03 test.

(b) *Highway fuel economy.* (1) For each vehicle tested under §§ 600.010–08(a) and (c)(1)(ii)(B), determine the 5-cycle highway fuel economy using the following equation:

$$\text{Highway FE} = 0.905 \times \frac{1}{\text{Start FC} + \text{Running FC}}$$

Where:

$$\text{(i) Start FC} = 0.33 \times \left(\frac{\left(0.76 \times \text{Start Fuel}_{75}\right) + \left(0.24 \times \text{Start Fuel}_{20}\right)}{60} \right)$$

Where:

$$\text{Start Fuel}_{x} = 3.6 \times \left(\frac{1}{\text{Bag 1 FE}_{x}} - \frac{1}{\text{Bag 3 FE}_{x}} \right)$$

and,

$$\text{(ii) Running FC} = 1.007 \times \left[\frac{0.79}{\text{US06 Highway FE}} + \frac{0.21}{\text{HFET FE}} \right] + 0.133 \times 0.377 \times \left[\frac{1}{\text{SC03 FE}} - \left(\frac{0.61}{\text{Bag 3}_{75}\text{FE}} + \frac{0.39}{\text{Bag 2}_{75}\text{FE}} \right) \right]$$

Where:

US06 Highway FE = fuel economy in mile per gallon over the highway portion of the US06 test,

HFET FE = fuel economy in mile per gallon over the HFET test,

SC03 FE = fuel economy in mile per gallon over the SC03 test.

(2) If the condition specified in § 600.115–08(b)(2)(iii)(B) is met, in lieu of using the calculation in paragraph (b)(1) of this section, the manufacturer may optionally determine the highway fuel economy using the following modified 5-cycle equation which utilizes data from FTP, HFET, and US06 tests, and applies mathematic adjustments for Cold FTP and SC03 conditions:

(i) Perform a US06 test in addition to the FTP and HFET tests.

(ii) Determine the 5-cycle highway fuel economy according to the following formula:

$$\text{Highway FE} = 0.905 \times \frac{1}{\text{Start FC} + \text{Running FC}}$$

Where:

$$\text{(A) } StartFC = 0.33 \times \frac{\left(0.005515 + 1.13637 \times StartFuel_{75}\right)}{60.0}$$

Where:

$$StartFuel_{75} = 3.6 \times \left(\frac{1}{Bag\ 1\ FE_{75}} - \frac{1}{Bag\ 3\ FE_{75}} \right)$$

Bag y FE_{75} = the fuel economy in miles per gallon of fuel during the specified bag of the FTP test conducted at an ambient temperature of 75 °F.

$$\text{(B) Running FC} = 1.007 \times \left[\frac{0.79}{\text{US06 Highway FE}} + \frac{0.21}{\text{HFET FE}} \right] + \left[0.377 \times 0.133 \times \left(0.00540 + \frac{0.1357}{\text{US06 FE}} \right) \right]$$

Where:

US06 Highway FE = fuel economy in miles per gallon over the highway portion of the US06 test.

HFET FE = fuel economy in miles per gallon over the HFET test.

US06 FE = fuel economy in miles per gallon over the entire US06 test.

(c) *Fuel economy calculations for hybrid electric vehicles.* Under the requirements of §86.1811–04(n), hybrid electric vehicles are subject to California test methods which require FTP emission sampling for the 75 °F FTP test over four phases (bags) of the UDDS (cold-start, transient, warm-start, transient). Optionally, these four phases may be combined into two phases (phases 1 + 2 and phases 3 + 4). Calculations for these sampling methods follow.

(1) *Four-bag FTP equations.* If the 4-bag sampling method is used, manufacturers may use the equations in paragraphs (a) and (b) of this section to determine city and highway fuel economy estimates. If this method is chosen, it must be used to determine both city and highway fuel economy. Optionally, the following calculations may be used, provided that they are used to determine both city and highway fuel economy:

(i) *City fuel economy.*

$$\text{City FE} = 0.905 \times \frac{1}{(\text{Start FC} + \text{Running FC})}$$

Where:

$$\text{(A) Start FC (gallons per mile)} = 0.33 \times \left(\frac{(0.76 \times \text{Start Fuel}_{75} + 0.24 \times \text{Start Fuel}_{20})}{4.1} \right)$$

Where:

$$\textit{(1)}\ \text{Start Fuel}_{75} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{75}} - \frac{1}{\text{Bag 3 FE}_{75}} \right] + 3.9 \times \left[\frac{1}{\text{Bag 2 FE}_{75}} - \frac{1}{\text{Bag 4 FE}_{75}} \right]$$

and

$$(2)\ \text{Start Fuel}_{20} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{20}} - \frac{1}{\text{Bag 3 FE}_{20}} \right]$$

$$\text{(B) Running FC (gallons per mile)} = 0.82 \times \left[\frac{0.48}{Bag\ 4_{75}\ FE} + \frac{0.41}{Bag\ 3_{75}\ FE} + \frac{0.11}{US06\ City\ FE} \right]$$

$$+ 0.18 \times \left[\frac{0.5}{Bag\ 2_{20}\ FE} + \frac{0.5}{Bag\ 3_{20}\ FE} \right] + 0.133 \times 1.083 \times \left[\frac{1}{SC03\ FE} - \left(\frac{0.61}{Bag\ 3_{75}\ FE} + \frac{0.39}{Bag\ 4_{75}\ FE} \right) \right]$$

Where:

$Bag Y_X$ FE = the fuel economy in miles per gallon of fuel during the specified bag Y of the FTP test conducted at an ambient temperature X of 75 °F or 20 °F.

US06 City FE = fuel economy in miles per gallon over the city portion of the US06 test.

SC03 FE = fuel economy in miles per gallon over the SC03 test.

(ii) *Highway fuel economy.*

$$\text{Highway FE} = 0.905 \times \frac{1}{\text{Start FC} + \text{Running FC}}$$

Where:

$$\text{(A) Start FC} = 0.33 \times \frac{(0.76 \times \text{Start Fuel}_{75} + 0.24 \times \text{Start Fuel}_{20})}{60}$$

Where:

$$\text{Start Fuel}_{75} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{75}} - \frac{1}{\text{Bag 3 FE}_{75}} \right] + 3.9 \times \left[\frac{1}{\text{Bag 2 FE}_{75}} - \frac{1}{\text{Bag 4 FE}_{75}} \right]$$

$$\text{Start Fuel}_{20} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{20}} - \frac{1}{\text{Bag 3 FE}_{20}} \right]$$

$$\text{(B) Running FC} = 1.007 \times \left[\frac{0.79}{\text{US06 Highway FE}} + \frac{0.21}{\text{HFET FE}} \right] + 0.133 \times 0.377 \times \left[\frac{1}{\text{SC03 FE}} - \left(\frac{0.61}{\text{Bag } 3_{75}\ \text{FE}} + \frac{0.39}{\text{Bag } 4_{75}\ \text{FE}} \right) \right]$$

Where:

US06 Highway FE = fuel economy in miles per gallon over the Highway portion of the US06 test,

HFET FE = fuel economy in miles per gallon over the HFET test,

SC03 FE = fuel economy in miles per gallon over the SC03 test.

(2) *Two-bag FTP equations.* If the 2-bag sampling method is used for the 75

°F FTP test, it must be used to determine both city and highway fuel economy. The following calculations must be used to determine both city and highway fuel economy:

(i) *City fuel economy.*

$$\text{City FE} = 0.905 \times \frac{1}{\text{Start FC} + \text{Running FC}}$$

Where:

$$\text{(A) Start FC} = 0.33 \times \frac{\left(0.76 \times \text{Start Fuel}_{75} + 0.24 \times \text{Start Fuel}_{20}\right)}{4.1}$$

Where:

$$\text{Start Fuel}_{75} = 7.5 \times \left[\frac{1}{\text{Bag 1/2 FE}_{75}} - \frac{1}{\text{Bag 3/4 FE}_{75}}\right]$$

$$\text{Start Fuel}_{20} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{20}} - \frac{1}{\text{Bag 3 FE}_{20}}\right]$$

Where:

Bag y FE_{20} = the fuel economy in miles per gallon of fuel during Bag 1 or Bag 3 of the 20 °F FTP test.

Bag x/y FE_X = fuel economy in miles per gallon of fuel during combined phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

$$\text{(B) Running FC} = 0.82 \times \left[\frac{0.90}{\text{Bag 3/4}_{75}\text{ FE}} + \frac{0.10}{\text{US06 City FE}}\right] + 0.18 \times \left[\frac{0.5}{\text{Bag 2}_{20}\text{ FE}} + \frac{0.5}{\text{Bag 3}_{20}\text{ FE}}\right] + 0.133 \times 1.083 \times \left[\frac{1}{\text{SC03 FE}} - \left(\frac{1.0}{\text{Bag 3/4}_{75}\text{ FE}}\right)\right]$$

Where:

US06 City FE = fuel economy in miles per gallon over the city portion of the US06 test,

SC03 FE = fuel economy in miles per gallon over the SC03 test.

Bag x/y FE_X = fuel economy in miles per gallon of fuel during combined phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

(ii) *Highway fuel economy.*

$$\text{Highway FE} = 0.905 \times \frac{1}{\text{Start FC} + \text{Running FC}}$$

Where:

$$\text{(A) Start FC} = 0.33 \times \frac{(0.76 \times \text{Start Fuel}_{75} + 0.24 \times \text{Start Fuel}_{20})}{60}$$

Where:

$$\text{Start Fuel}_{75} = 7.5 \times \left[\frac{1}{\text{Bag 1/2 FE}_{75}} - \frac{1}{\text{Bag 3/4 FE}_{75}} \right]$$

and

$$\text{Start Fuel}_{20} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE}_{20}} - \frac{1}{\text{Bag 3 FE}_{20}} \right]$$

and

$$\text{(B) Running FC} = 1.007 \times \left[\frac{0.79}{\text{US06 Highway FE}} + \frac{0.21}{\text{HFET FE}} \right] + 0.133 \times 0.377 \times \left[\frac{1}{\text{SC03 FE}} - \left(\frac{1.0}{\text{Bag 3/4}_{75}\text{ FE}} \right) \right]$$

Where:

US06 Highway FE = fuel economy in miles per gallon over the city portion of the US06 test,

SC03 FE = fuel economy in miles per gallon over the SC03 test.

Bag y FE_{20} = the fuel economy in miles per gallon of fuel during Bag 1 or Bag 3 of the 20 °F FTP test.

Bag x/y FE_X = fuel economy in miles per gallon of fuel during phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

(3) For hybrid electric vehicles using the modified 5-cycle highway calculation in paragraph (b)(2) of this section, the equation in paragraph (b)(2)(ii)(A) of this section, applies except that the equation for Start $Fuel_{75}$ will be replaced with one of the following:

(i) The equation for Start $Fuel_{75}$ for hybrids tested according to the 4-bag FTP is:

$$\text{Start Fuel}_{75} = 3.6 \times \left[\frac{1}{\text{Bag 1 FE 75}_{75}} - \frac{1}{\text{Bag 3 FE}_{75}} \right] + 3.9 \times \left[\frac{1}{\text{Bag 2 FE}_{75}} - \frac{1}{\text{Bag 4 FE}_{75}} \right]$$

(ii) The equation for Start $Fuel_{75}$ for hybrids tested according to the 2-bag FTP is:

$$\text{Start Fuel}_{75} = 7.5 \left[\frac{1}{\text{Bag 1/2 FE}_{75}} - \frac{1}{\text{Bag 3/4 FE}_{75}} \right]$$

(d) *City carbon-related exhaust emission value.* For each vehicle tested, determine the 5-cycle city carbon-related exhaust emissions using the following equation:

(1) CityCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(i) StartCREE =

$$0.33 \times \left(\frac{(0.76 \times \text{StartCREE}_{75} + 0.24 \times \text{StartCREE}_{20})}{4.1} \right)$$

Where:

StartCREE_X = 3.6 × (Bag1CREE_X − Bag3CREE_X)

Where:

Bag Y CREE_X = the carbon-related exhaust emissions in grams per mile during the specified bag of the FTP test conducted at an ambient temperature of 75 °F or 20 °F.

(ii) Running CREE =

0.82 × [(0.48 × Bag2_{75}CREE) + (0.41 × BAG3_{75}CREE) + (0.11× US06 CityCREE)] +

0.18 × [(0.5 × Bag2_{20}CREE) + (0.5 × Bag3_{20}CREE)] +

0.144 × [SC03 CREE − ((0.61 × Bag3_{75}CREE) + (0.39 × Bag2_{75}CREE))]

Where:

BagY_XCREE = carbon-related exhaust emissions in grams per mile over Bag Y at temperature X.

US06 City CREE = carbon-related exhaust emissions in grams per mile over the ''city'' portion of the US06 test.

SC03 CREE = carbon-related exhaust emissions in grams per mile over the SC03 test.

(e) *Highway carbon-related exhaust emissions.* For each vehicle tested, determine the 5-cycle highway carbon-related exhaust emissions using the following equation:

HighwayCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(1) StartCREE =

$$0.33 \times \left(\frac{(0.76 \times \text{StartCREE}_{75} + 0.24 \times \text{StartCREE}_{20})}{60} \right)$$

Where:

StartCREE_X = 3.6 × (BagCREE_X − Bag3CREE_X)

(2) Running CREE =

1.007 × [(0.79 × *US06 Highway CREE)* + (0.21 × *HFET CREE*)] + 0.045 × [*SC03 CREE* − ((0.61 × $Bag3_{75}CREE$) + (0.39 × $Bag2_{75}CREE$))]

Where:

BagY_XCREE = carbon-related exhaust emissions in grams per mile over Bag Y at temperature X,

US06 Highway CREE = carbon-related exhaust emissions in grams per mile over the highway portion of the US06 test,

HFET CREE = carbon-related exhaust emissions in grams per mile over the HFET test,

SC03 CREE = carbon-related exhaust emissions in grams per mile over the SC03 test.

(f) *Carbon-related exhaust emissions calculations for hybrid electric vehicles.* Hybrid electric vehicles shall be tested according to California test methods

which require FTP emission sampling for the 75 °F FTP test over four phases (bags) of the UDDS (cold-start, transient, warm-start, transient). Optionally, these four phases may be combined into two phases (phases 1 + 2 and phases 3 + 4). Calculations for these sampling methods follow.

(1) *Four-bag FTP equations.* If the 4-bag sampling method is used, manufacturers may use the equations in paragraphs (a) and (b) of this section to determine city and highway carbon-related exhaust emissions values. If this method is chosen, it must be used to determine both city and highway carbon-related exhaust emissions. Optionally, the following calculations may be used, provided that they are used to determine both city and highway carbon-related exhaust emissions values:

(i) *City carbon-related exhaust emissions.*

CityCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(A) StartCREE =

$$0.33\times\left(\frac{(0.76\times \text{StartCREE}_{75}+0.24\times \text{StartCREE}_{20})}{4.1}\right)$$

Where:

(*1*) $StartCREE_{75}$ =

3.6 × (Bag1$CREE_{75}$ − $Bag3CREE_{75}$) + 3.9 × ($Bag2CREE_{75}$ − $Bag4CREE_{75}$)

and

(*2*) $StartCREE_{20}$ =

3.6 × ($Bag1CREE_{20}$ − $Bag3CREE_{20}$)

(B) RunningCREE =

0.82 × [(0.48 × $Bag4_{75}CREE$) + (0.41 × $Bag3_{75}CREE$) + (0.11 × *US*06 *City CREE*)] + 0.18 × [(0.5 × $Bag2_{20}CREE$) + (0.5 × $Bag3_{20}CREE$)] + 0.144 × [*SC*03 *CREE* − ((0.61 × $Bag3_{75}CREE$) + (0.39 × $Bag4_{75}CREE$))]

Where:

US06 Highway CREE = carbon-related exhaust emissions in grams per mile over the city portion of the US06 test.

US06 Highway CREE = carbon-related exhaust emissions in miles per gallon over the Highway portion of the US06 test.

HFET CREE = carbon-related exhaust emissions in grams per mile over the HFET test.

SC03 CREE = carbon-related exhaust emissions in grams per mile over the SC03 test.

(ii) *Highway carbon-related exhaust emissions.*

HighwayCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(A) StartCREE =

$$0.33\times\left(\frac{(0.76\times \text{StartCREE}_{75}+0.24\times \text{StartCREE}_{20})}{60}\right)$$

Where:

$StartCREE_{75}$ = 3.6 × (Bag1$CREE_{75}$ − Bag3$CREE^{75}$) + 3.9 × (Bag2$CREE_{75}$ − Bag4$CREE_{75}$)

and

$StartCREE_{20}$ = 3.6 × (Bag1$CREE_{20}$ − Bag3$CREE_{20}$)

(B) RunningCREE =

1.007 × [(0.79 × *US*06 *Highway CREE*) + (0.21 × *HFET CREE*)] + 0.045 × [*SC*03 *CREE* − ((0.61 × $Bag3_{75}CREE$) + (0.39 × $Bag4_{75}CREE$))]

Where:

US06 Highway CREE = carbon-related exhaust emissions in grams per mile over the Highway portion of the US06 test,

HFET CREE = carbon-related exhaust emissions in grams per mile over the HFET test,

SC03 CREE = carbon-related exhaust emissions in grams per mile over the SC03 test.

(2) *Two-bag FTP equations.* If the 2-bag sampling method is used for the 75

°F FTP test, it must be used to determine both city and highway carbon-related exhaust emissions. The following calculations must be used to determine both city and highway carbon-related exhaust emissions:

(i) *City carbon-related exhaust emissions.*

CityCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(A) StartCREE =

$$0.33\times\left(\frac{\left(0.76\times \text{StartCREE}_{75}+0.24\times \text{StartCREE}_{20}\right)}{4.1}\right)$$

Where:

Start $CREE_{75}$ = 3.6 × (Bag ½ $CREE_{75}$ − Bag ¾ $CREE_{75}$)

and

Start $CREE_{20}$ = 3.6 × (Bag1$CREE_{20}$ − Bag3$CREE_{20}$)

Where:

Bag Y FE_{20} = the carbon-related exhaust emissions in grams per mile of fuel during Bag 1 or Bag 3 of the 20 °F FTP test, and

Bag X/Y FE_{75} = carbon-related exhaust emissions in grams per mile of fuel during combined phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

(B) RunningCREE =

0.82 × [(0.90 × Bag$^{3}/_{4}{}_{75}$CREE) + (0.10 × US06 City CREE)] + 0.18 × [(0.5 × Bag2_{20}CREE) + (0.5 × Bag3_{20}CREE)] + 0.144 × [SC03 CREE − (Bag$^{3}/_{4}{}_{75}$CREE)]

Where:

US06 City CREE = carbon-related exhaust emissions in grams per mile over the city portion of the US06 test, and

SC03 CREE = carbon-related exhaust emissions in grams per mile over the SC03 test, and

Bag X/Y FE_{75} = carbon-related exhaust emissions in grams per mile of fuel during combined phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

(ii) *Highway carbon-related exhaust emissions.*

HighwayCREE = 0.905 × (StartCREE + RunningCREE)

Where:

(A) StartCREE =

$$0.33\times\left(\frac{\left(0.76\times \text{StartCREE}_{75}+0.24\times \text{StartCREE}_{20}\right)}{60}\right)$$

Where:

Start $CREE_{75}$ = 7.5 × (Bag$^{1}/_{2}$$CREE_{75}$ − Bag$^{3}/_{4}$$CREE_{75}$)

and

Start $CREE_{20}$ = 3.6 × (Bag1$CREE_{20}$ − Bag3$CREE_{20}$)

(B) RunningCREE =

1.007 × [(0.79 × US06 Highway CREE) + (0.21 × HFET CREE)] + 0.045 × [SC03 CREE − Bag$^{3}/_{4}{}_{75}$CREE]

Where:

US06 Highway CREE = carbon-related exhaust emissions in grams per mile over the city portion of the US06 test, and

SC03 CREE = carbon-related exhaust emissions in gram per mile over the SC03 test, and

Bag Y FE_{20} = the carbon-related exhaust emissions in grams per mile of fuel during Bag 1 or Bag 3 of the 20 °F FTP test, and

Bag X/Y FE_{75} = carbon-related exhaust emissions in grams per mile of fuel during phases 1 and 2 or phases 3 and 4 of the FTP test conducted at an ambient temperature of 75 °F.

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